

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: ??/??/2020

Region: Raleigh Regional Office
County: Halifax
NC Facility ID: 4200007
Inspector's Name: Dawn Reddix
Date of Last Inspection: 05/31/2019
Compliance Code: 3 / Compliance – inspection

Facility Data				Permit Applicability (this application only)			
Applicant (Facility's Name): WestRock Kraft Paper, LLC Facility Address: WestRock Kraft Paper, LLC 100 Gaston Road Roanoke Rapids, NC 27870 SIC: 2621 / Paper Mills Exc Building Paper NAICS: 322121 / Paper (except Newsprint) Mills Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V				SIP: 2D .0516, 2D .0521 NSPS: N/A NESHAP: MM PSD: N PSD Avoidance: Y NC Toxics: N/A 112(r): N/A Other: Remove 15A NCAC 02Q .0504			
Contact Data				Application Data			
Facility Contact	Authorized Contact	Technical Contact		Application Number: 4200007.18D and .19A Date Received: 11/19/2018 and 02/12/2019 Application Type: Modification Application Schedule: TV-Sign-501(b)(2) Part II Existing Permit Data Existing Permit Number: 01649/T66 Existing Permit Issue Date: 03/19/2020 Existing Permit Expiration Date: 02/28/2023			
Mike Knudson Environmental Manager (252) 533-6280 100 Gaston Road Roanoke Rapids, NC 27870	Benjamin White General Manager (252) 533-6335 100 Gaston Road Roanoke Rapids, NC 27870	Mike Knudson Environmental Manager (252) 533-6280 100 Gaston Road Roanoke Rapids, NC 27870					
Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2018	571.56	928.62	578.13	1087.05	171.60	203.38	145.81 [Methanol (methyl alcohol)]
2017	326.57	986.51	600.13	964.37	179.22	253.05	208.39 [Methanol (methyl alcohol)]
2016	54.79	1231.80	368.04	893.07	170.96	210.53	167.41 [Methanol (methyl alcohol)]
2015	62.50	1335.78	322.76	739.13	239.52	152.15	108.89 [Methanol (methyl alcohol)]
2014	72.13	1446.35	348.56	773.70	229.76	178.15	134.56 [Methanol (methyl alcohol)]
Review Engineer: Brian Bland Review Engineer's Signature: _____ Date: ??/??/2020				Comments / Recommendations: Issue 01649/T67 Permit Issue Date: ??/??/2020 Permit Expiration Date: 02/28/2023			

I. Introduction and Purpose of Application

Located in Roanoke Rapids, Halifax County, WestRock Kraft Paper, LLC (WestRock) formerly known as KapStone Kraft Paper is a pulp and paper mill that manufactures brown paper stock. Brown paper stock is used to make cardboard and shopping bags.

Application Nos. 4200007.18D and 4200007.19A were submitted to satisfy the 15A NCAC 02Q .0501(b)(2) (previously 15A NCAC 02Q .0501(c)(2)) requirement to submit a complete Title V Air Permit application within twelve (12) months after commencing operation for the emission sources in Application Nos. 4200007.15D and 4200007.18A, respectively. These two applications were consolidated and will be processed as the “second step” of two-step 15A NCAC 02Q .0501(b)(2) significant modification.

On March 8, 2016, the facility received their 1st step permit pursuant to the rules at 15A NCAC 02Q .0501(c)(2) and 02Q .0504 to “reconfigure the woodyard operations to allow for more flexible operations.” As the review document for this applications contains a full discussion of the modification, and there was only a small change to this information, these unchanged details will not be included as part of this review. However, a Word copy of the review document for Application No. 4200007.15D has been attached to this review.

On March 21, 2018, the facility received their 1st step permit pursuant to the rules at 15A NCAC 02Q .0501(c)(2) and 02Q .0504 for the purpose of making improvements to the electrostatic precipitator (ESP) associated with the No. 7 Recovery Furnace. As the review document for this applications contains a full discussion of the modification, and this information has not changed, these details will not be included as part of this review. However, a Word copy of the review document for Application No. 4200007.18A has been attached to this review.

II. Application Chronology

March 8, 2016	Air Permit No. 01649T56 for the modification of woodyard operations was issued pursuant to Application No. 4200007.15D
March 21, 2018	Air Permit No. 01649T64 for the improvements to the ESP associated with the No. 7 Recovery Furnace was issued pursuant to Application No. 4200007.18A.
November 19, 2018	Application No. 4200007.18D to complete two-step significant modification process initiated with Application No. 4200007.15D was received and considered administratively complete.
January 24, 2019	Application No. 4200007.19A to complete two-step significant modification process initiated with Application No. 4200007.18A was received.
February 12, 2019	The required application fee for Application No. 4200007.19A was received and this application was considered administratively complete.
April 2, 2020	Draft permit and review document sent to the Raleigh Regional Office (RRO).
April 2, 2020	Draft permit forwarded to Mike Knudson and Matt Upton of WestRock.
April 7, 2020	Comments on draft permit and review document received from RRO.
April 8, 2020	DAQ grants one week extension to submit comments on draft permit as requested by WestRock.

April 14, 2020	Discussion and clarifications of RRO comments on draft permit and review document completed.
April 20, 2020	DAQ grants two week extension to submit comments on draft permit as requested by WestRock.
May 4, 2020	Comments on draft permit received from WestRock.
May 18, 2020	Discussion and clarifications of WestRock comments on draft permit completed.
??, 2020	Draft permit sent to public notice and EPA review.
??, 2020	Public comment period ends.
??, 2020	EPA comment period ends.

III. Permit Modification/Changes

Page(s)	Section(s)	Description of Change(s)
All	All	Updated dates and permit revision number Corrected minor formatting and typographical errors Made minor updates to reflect current DAQ standards
3	Section 1	Removed *** footnote and associated emission source tags Removed saws (ID No. ES-01-PU-MISC.1) ¹ Removed three (3) Bark/Fines Transfer Cyclones (ID Nos. ES-01-PU-016 through ES-01-PU-018) ² Changed name of ID No. ES-07-TK-WLTs* from Weak Black Liquor Storage to Black Liquor Storage ³ Changed ID No. of Strong Liquor Storage from ES-08-TK-SLTs to ES-08-TK-025 ³ Removed Salt Cake Mix Tank (ID No. ES-08-TK-008) and Chemical Ash Tank (ID No. ES-08-TK-CA) ³
11	2.1 A	Removed three (3) Bark/Fines Transfer Cyclones (ID Nos. ES-01-PU-016 through ES-01-PU-018) ²
12	2.1 A.3	Removed "15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT" permit application requirement
15	2.1 E	Updated citations to reflect changes to Section 2.2 C
42	2.1 K.4.k	As requested by Permittee, added during oil firing for further clarity
47	2.1 K.7	Corrected historical error where sulfuric acid was omitted from the 15A NCAC 02Q .0317 Avoidance of 15A NCAC 02D .0530 condition

Page(s)	Section(s)	Description of Change(s)
65	2.2 C	Updated 40 CFR 63 Subpart MM section to reflect current requirements
75	3	Updated General Conditions to current version

¹As the new debarking drum handles whole length logs, WestRock requested the removal of emission source “saws” (ID No. ES-01-PU-MISC.1) that cut logs in the old woodyard into shorter lengths, from their air permit.

²Application No. 4200007.15D (Part 1) included a design with three bark grinders each with its own transfer cyclone with the ground bark conveyed to the new hog fuel silo. In Application No. 4200007.18D (Part 2), this design was changed to a totally enclosed hogger and grinder. This change is expected to result in a slight decrease in particulate emissions from the estimation included in the initial application. The ground bark is still conveyed (covered) to the hog fuel silo.

³As detailed below, WestRock requested these changes along with their May 4, 2020 comments on the draft permit.

On May 4, 2020 responded to the request for comments on the draft permit. It should be noted that the draft permit included the removal of Nos. 2 and 3 Package Boilers as originally requested as part of App. No. 4200007.17C. Relatedly, as part of their response WestRock withdrew this request stating “WestRock requests to withdraw the operation permit modification request submitted with the 2017 TV renewal application to remove Nos. 2 and 3 Package Boilers. We will submit a separate application to go back and revise the PSD avoidance limit and remove the two sources at that time.” Additionally, WestRock requested several other changes unrelated to this modification and most of these were completed as part of this revision. However, some changes were items previously requested as part of the renewal that could not be completed in a timely manner here, so these items will be evaluated as part of the upcoming renewal. The requested changes incorporated into this modification include:

Section 1

- (ID No. ES-07-TK-WLTs) Remove weak from description. “This includes both weak and mid black liquor storage tanks”
- (ID No. ES-08-TK-SLTs) “This is the heavy black liquor storage tank for No.7 Recovery Furnace. Update the source ID to ES-08-TK-025”
- “This was the salt cake mix tank (ES-08-TK-008) for the decommissioned No.6 Recovery Furnace so this needs to be removed”
- This was the chemical ash tank (ES-08-TK-CA) for the decommissioned No.6 Recovery Furnace so this needs to be removed

Section 2.1

- (Section 2.1 K.4.k) “For clarity, add “during oil firing” at the end of this sentence”

IV. Regulatory Review

The facility is currently subject to the following regulations:

15A NCAC 02D .0503 "Particulates from Fuel Burning Indirect Heat Exchangers"
15A NCAC 02D .0504 "Particulates from Wood Burning Indirect Heat Exchangers"
15A NCAC 02D .0508 "Particulates from Pulp and Paper Mills"
15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes"
15A NCAC 02D .0516 "Sulfur Dioxide from Combustion Sources"
15A NCAC 02D .0521 "Control of Visible Emissions"
15A NCAC 02D .0524 "New Source Performance Standards" [BB, Db, DD, IIII]
15A NCAC 02D .0528 "Total Reduced Sulfur from Kraft Pulp Mills"
15A NCAC 02D .0530 "Prevention of Significant Deterioration"

15A NCAC 02D .0606 "Sources Covered by Appendix P of CFR 51 (Continuous Opacity Monitoring and Excess Emissions) and 15A NCAC 02D .0614 Continuous Assurance Monitoring"
15A NCAC 02D .0608 "Other Large Coal or Residual Oil Burners"
15A NCAC 02D .0614 "Continuous Assurance Monitoring"
15A NCAC 02D .1100 "Control of Toxic Air Pollutants" (State-enforceable only)
15A NCAC 02D .1111 "Maximum Achievable Control Technology" [S, MM, GGGG, ZZZZ, DDDDD]
15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions" (State-enforceable only)
15A NCAC 02Q .0317 "Avoidance Conditions" [PSD, NSPS, MACT, 15A NCAC 2D .1100, 15A NCAC 2D .1109]
15A NCAC 02Q .0711 "Toxic Air Pollutants" (State-enforceable only)

Except for NESHAP MM, there are no changes to these regulatory requirements, so a review of these regulations will not be included in this document. As noted above, the regulatory applicability to the Part I modifications are included in the attachments to this document below. No modifications are necessary to those determinations as a result of this procedural Part II completion.

WestRock is subject to the NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills under 40 CFR Part 63, Subpart MM. On October 11, 2017, as a result of a residual risk and technology review (RTR), EPA published final amendments to Subpart MM. The following discussion summarizes those amendments and the permit was modified to reflect the amended regulation.

The following describes how Subpart MM revisions impact the sources at the WestRock.

- The opacity monitoring allowance for the No. 7 Recovery Furnaces was revised from 6 percent quarterly to 2 percent semiannually; and
- WestRock is required to maintain proper operation of the No. 7 Recovery Furnace ESP automatic voltage control (AVC).

Changes to address emissions during periods of startup, shutdown and malfunction

The Subpart MM amendments eliminated the startup, shutdown, and malfunction (SSM) exemption and the Subpart MM standards apply at all times. EPA revised Table 1 to Subpart MM of Part 63 (General Provisions applicability table) to change several references related to requirements that apply during periods of SSM. EPA eliminated or revised certain recordkeeping and reporting requirements related to the eliminated SSM exemption, including the requirement for an SSM plan. EPA also made changes to the rule to remove or modify language that is no longer applicable due to the removal of the SSM exemption. With the amendments to the Subpart MM monitoring requirements described above, EPA determined that pulp and paper facilities can meet the applicable Subpart MM emissions standards at all times, including periods of startup and shutdown and did not include additional standards to address emissions during these periods.

The Subpart MM monitoring requirements were adjusted to ensure that continuous compliance can feasibly be demonstrated during periods of startup and shutdown. Subpart MM requires continuous opacity monitoring to indicate ongoing compliance with the PM emission limits. EPA removed the requirement to consider wet scrubber pressure drop during startup and shutdown because pressure drop is dependent on gas flow, which is transient (changing) during startup and shutdown. Therefore, continuous compliance is based on scrubber liquid flow rate monitoring during startup and shutdown instead of both pressure drop and liquid flow rate. EPA also limited the times when corrective actions are implemented, or violations are recorded to times when spent pulping liquor or lime mud is fed (as applicable). The final rule specifies that corrective action can include completion of transient startup and shutdown conditions as expeditiously as possible.

Other Changes to the NESHAP

Other changes to the NESHAP that do not fall into the categories in the previous sections include:

- Requiring periodic air emissions performance testing, with the first of the tests to be conducted no later than October 31, 2020, and thereafter no longer than 5 years following the previous performance test;
- Specifying procedures for establishing operating limits based on data recorded by CPMS, including the frequency for recording parameters and the averaging period for reducing the recorded readings;
- Reducing the frequency for submitting excess emissions reports from quarterly to semiannually in conjunction with requiring electronic reporting of excess emissions;
- Requiring the submission of electronic copies of performance test reports;
- Requiring the submission of initial notifications and notifications of compliance status electronically; and
- Various technical and editorial corrections.

The compliance date for the Subpart MM amendments was October 11, 2019. The air permit contained a 112(j) section to address SSM for the Subpart MM affected sources, however with the amendments to Subpart MM, the 112(j) condition was no longer applicable and was removed.

V. Facility Compliance Status

The last full inspection of this facility was completed on May 31, 2019 by Dawn Reddix of the RRO. At that time, the facility “appeared to be operating in compliance with all permit requirements.”

VI. Other Regulatory Concerns

The required application fees of \$947 (App. No. 4200007.18D) and \$970 (App. No. 4200007.19A) were received for these modifications.

Halifax County has triggered increment tracking under PSD for PM₁₀, SO₂ and NO_x. However, the change to increment associated with these modifications was accounted for in the Part I permit revisions.

Public notice and EPA review is required for the completion of this two-step significant process. A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. The associated dates are included in the Application Chronology in Section 3 above.

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date: March 8, 2016

Region: Raleigh Regional Office
County: Halifax
NC Facility ID: 4200007
Inspector's Name: Will Wike
Date of Last Inspection: 06/09/2015
Compliance Code: 3 / Compliance - inspection

Facility Data Applicant (Facility's Name): KapStone Kraft Paper Corporation Facility Address: KapStone Kraft Paper Corporation 100 Gaston Road Roanoke Rapids, NC 27870 SIC: 2621 / Paper Mills Exc Building Paper NAICS: 322121 / Paper (except Newsprint) Mills Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V				Permit Applicability (this application only) SIP: 2D .0515 and .0521; 2Q .0504 NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other:			
Contact Data			Application Data				
Facility Contact Mike Knudson Environmental Manager (252) 533-6280 100 Gaston Road Roanoke Rapids, NC 27870	Authorized Contact Wilbur Kessinger, Jr. Vice President of Mill Operations (252) 533-6398 100 Gaston Road Roanoke Rapids, NC 27870	Technical Contact Mike Knudson Environmental Manager (252) 533-6280 100 Gaston Road Roanoke Rapids, NC 27870	Application Number: 4200007.15D Date Received: 09/22/2015 Application Type: Modification Application Schedule: TV-Sign-501(c)(2) Part I Existing Permit Data Existing Permit Number: 01649/T55 Existing Permit Issue Date: 08/27/2015 Existing Permit Expiration Date: 12/31/2017				
Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	72.13	1446.35	752.52	773.70	229.76	178.15	134.56 [Methanol (methyl alcohol)]
2013	400.71	1585.29	246.84	728.03	260.73	123.24	81.30 [Methanol (methyl alcohol)]
2012	818.21	1379.46	286.67	689.96	284.10	168.53	127.38 [Methanol (methyl alcohol)]
2011	880.80	1412.92	283.90	569.60	358.42	173.22	132.80 [Methanol (methyl alcohol)]
2010	914.97	1515.68	299.48	598.24	265.90	178.01	136.92 [Methanol (methyl alcohol)]
Review Engineer: Brian Bland Review Engineer's Signature: <i>Original Signed</i>				Comments / Recommendations: Issue 01649/T56 Permit Issue Date: 03/08/2016 Permit Expiration Date: 12/31/2017			

I. Facility Description

Located in Roanoke Rapids, Halifax County, KapStone Kraft Paper (KapStone) is a pulp and paper mill that manufactures brown paper stock. Brown paper stock is used to make cardboard and shopping bags

II. Purpose of Application

Application No. 4200007.15D was submitted on September 22, 2015 “proposing to reconfigure the woodyard operations to allow for more flexible operations.” Subsequently, an addendum was submitted on November 25, 2015, “...proposing to install one new sawdust cyclone and up to three new bark/fines cyclones rather than one bark/fines cyclone.” Lastly, a revision was submitted on February 26, 2016. This proposed modification constitutes a significant modification of the Title V Air Quality Permit. KapStone has chosen to use the two-step significant modification procedures pursuant to 15A NCAC 02Q .0501(c)(2). This first step modification is being processed in accordance with state permitting procedures. Within 12 months of start-up of any of the modified equipment, KapStone will be required to submit a complete Title V application.

As described in the application, “The new woodyard will have a higher capacity than the current woodyard and will allow for the processing of tree length logs (no log trimming). The proposed project will allow the mill to operate the woodyard during daylight hours instead of continuously in order to meet current production demands. The expected woodyard chip capacity after the upgrades is 2,600,000 tons per year (tpy). The proposed project will involve replacement of the following equipment:

- Log cranes
- Debarking drum
- Chipper
- Bark hog(s)
- Chip pile
- Bark pile
- Sawdust silo and cyclone (replaced with a bark/fines silo and cyclone).

The proposed upgrade will remove the existing slasher saws and will add new conveyors. The amount of purchased chips will be reduced to 400,000 tpy and purchased sawdust will be gradually phased out.”

The addendum is described: “As part of the September permit application, the mill requested that one new bark/fines silo and cyclone be added to the woodyard operations with the removal of the sawdust silo and cyclone. With this addendum, the mill is proposing to install one new sawdust cyclone and up to three new bark/fines cyclones rather than one bark/fines cyclone. The four new cyclones will feed the bark/fines silo for boiler fuel via hard-piping. All of the material handling and transfer activities after the bark hog to the bark/fines cyclones are enclosed processes (including covered conveying, covered bark bin, and hammer mills). An alternate option is under consideration that includes the addition of one new sawdust cyclone and one new bark/fines cyclone that will feed the bark/fines silo for boiler fuel; however this application reflects the option that results in the most conservative emissions estimate.”

On February 26, 2016, KapStone revised the application to account for a change in material delivery to Boiler Fuel Silo. Specifically, instead of materials being conveyed to a cyclone on top of the silo, where the silo was not an emission point, the materials will be now be belt conveyed and dropped inside the silo with no control device on the silo. This revision resulted in a slight (0.13 tpy) increase in potential PM emissions.

III. Application Chronology

September 22, 2015 DAQ receives Permit Application No. 4200007.15D to reconfigure the woodyard operations.

November 25, 2015 DAQ receives addendum to Permit Application No. 4200007.15D that modifies the application by “... proposing to install one new sawdust cyclone and up to three new bark/fines cyclones rather than one bark/fines cyclone.”

February 10, 2016 Additional information request sent to KapStone requesting a clarification on NC Toxic Air Pollutants (TAP) emissions.

February 11, 2016 Response to Additional information request received.

February 16, 2016 Draft permit forwarded to Michael Knudson of KapStone and Amy Marshall of AECOM for comments.

February 16, 2016 Draft permit and review document forwarded to Raleigh Regional Office (RRO) and Samir Parekh (SSCB) for comments.

February 17, 2016 Comments received from RRO consisted mainly of suggestions for improving the clarity of the permit items descriptions.

February 26, 2016 DAQ receives revision to Permit Application No. 4200007.15D that establishes the Boiler Fuel Silo as an emissions source.

February 19, 2016 – Discussion between DAQ and KapStone clarifying details regarding permit wording and equipment involved in the modification.
March 3, 2016

March 7, 2016 Comments received from KapStone. Typo was corrected and a clarification was sent to KapStone.

IV. Changes to Existing Air Permit

Page(s)	Section	Description of Change(s)
All	All	Update dates and permit revision number Replace “2D” and “2Q” citations with “02D” and “02Q”
3 – end	All	Update permit revision number in header
3	permitted emission sources	Remove Sawdust Silo Group (G0104) consisting of Sawdust Silo (ID No. ES-01-PU-013) and associated Sawdust silo transfer cyclone (126 inches in diameter, ID No. ES-01-PU-113) Add Three Bark/Fines Transfer Cyclones (ID Nos. ES-01-PU-016 through ES-01-PU-018), Sawdust Transfer Cyclone (ID No. ES-01-PU-019) and Boiler Fuel Silo (ID No. ES-01-PU-021)

Page(s)	Section	Description of Change(s)
11	2.1 A.	Remove Sawdust Silo Group (G0104) consisting of Sawdust Silo (ID No. ES-01-PU-013) and associated Transfer Cyclone (ID No. ES-01-PU-113) Add Three Bark/Fines Transfer Cyclones (ID Nos. ES-01-PU-016 through ES-01-PU-018), Sawdust Transfer Cyclone (ID No. ES-01-PU-019) and Boiler Fuel Silo (ID No. ES-01-PU-021) and revise associated regulations (15A NCAC 02D .0515 and 15A NCAC 02D .0521) Add a permit application submittal requirement pursuant to 15A NCAC 02Q .0504
73	3	Update General Conditions to version 4.0

(See attached Woodyard Area Diagram for more information)

Each of the three hammer mills (ID No. ES-01-PU-MISC.9, bark hogging/grinding) grinds bark that is pneumatically conveyed to an enclosed belt conveyor through its respective Bark/Fines Transfer Cyclone. An enclosed belt conveyor then transfers the material to the Boiler Fuel Silo.

Purchased sawdust is pneumatically conveyed from the sawdust storage area (sawdust pile and sawdust truck dump) to the Sawdust Transfer Cyclone that drops the material in the boiler fuel silo.

Bark and sawdust from the Boiler Fuel Silo is pneumatically conveyed to the No. 1 Power Boiler through an existing transfer cyclone (ID No. ES-11-PU-003 or ES-11-PU-004) to an existing bark bin, in the boiler building, and fed to the boiler.

V. Compliance Status

On June 9, 2015 the facility was inspected by Mr. Will Wike of the RRO and KapStone appeared to be operating in compliance with all permit requirements.

VI. Regulatory Review

15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes"

This regulation establishes an allowable emission rate for particulate matter from any stack, vent, or outlet resulting from any industrial process for which no other emission control standards are applicable. This regulation applies to Total Suspended Particulate (TSP) or PM less than 100 micrometers (µm). The allowable emission rate is calculated using the following equations:

$$E = 4.10 \times P^{0.67} \quad \text{for } P \leq 30 \text{ tph}$$

$$E = 55 \times P^{0.11} - 40 \quad \text{for } P > 30 \text{ tph}$$

where, E = allowable emission rate (lb/hr)
P = process weight rate (tons/hr)

The new bark/fines transfer cyclones and transfer silo can process a total of 28 tons/hr of material; therefore allowable particulate emissions are 38 lb/hr (or 18.31 lb/hr taken individually). NCASI Technical Bulletin (TB) 1020 Table 9.1 gives an emission factor of 0.096 lb/hr per cyclone or 0.288 lb/hr total. Compliance with this standard is expected.

The new sawdust transfer cyclone can process 13 tons/hr of material; therefore allowable particulate emissions are 23 lb/hr. NCASI TB1020 Table 9.1 gives an emission factor of 0.113 lb/hr. Compliance with this standard is expected.

The potential throughput of the new Boiler Fuel Silo, based on the assumption that all bark and trucked-in sawdust passes through the silo, was calculated at 357,475 tons/year. Using a process rate of 40.81 tons/hour (assuming 8760 hours/year), the 2D .0515 allowable particulate emissions are 42.7 lb/hr, compared to estimated PM emissions of 0.03 lb/hr. Compliance with this standard is expected.

15A NCAC 02D .0521 "Control of Visible Emissions"

Visible emissions (VE) standards provided in this regulation are applicable to potential VE from any stack, vent, or outlet. This regulation limits visible emissions to no more than 20 percent opacity when averaged over a six-minute period, except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period. Compliance with this standard is expected.

The associated permit condition will require that KapStone establish normal for the sources in the first 30 days of operation, make monthly VE observations and submit a semi-annual summary report.

PSD Considerations

KapStone is considered a PSD major source as the facility belongs to one of the 28 source categories listed in the PSD regulations and emits greater than 100 TPY of a PSD-regulated compound. As shown below, a PSD applicability analysis found that a PSD review was not required.

Baseline Actual Emissions

To calculate emissions increases from the project, a baseline actual to projected actual analysis was performed. The facility reviewed monthly production data and selected a baseline period of January 2012 through December 2013 (highest historical 24-month average annual emissions in tons/year for the existing woodyard sources). Baseline emissions are zero for the new sources.

Potential Emissions and Projected Actual Emissions (Section 3.3.4 of the application)

"Projected actual emissions are defined by 51.166(b)(40)(i) as "the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant, and full utilization of the unit would result in a significant emissions increase, or a significant net emissions increase at the major stationary source." To determine the maximum annual rate, a source must consider all relevant information, including historical operational data, the company's expected business activity, and the company's highest projections of business activity for the five year period after implementation of the project. For the existing woodyard equipment that is being replaced by this project, projected actual emissions are zero. Post project emissions for the new equipment are represented as potential emissions to provide the most conservative analysis of project emissions impacts. Potential emissions are estimated based on the new equipment running at full design capacity for 8760 hr/yr.

The following project details apply to the new woodyard sources.

- Woodyard chip capacity of 2,600,000 tpy;
- Purchased chips of 400,000 tpy;
- Own-made chips of 2,200,000 tpy;
- Log throughput of 2,420,000 tpy (own-made chips* 1.10);
- Amount of bark generated is 242,000 tpy (10% of log throughput)."

Summary of project PSD Compound Emissions Increases (Table B-1, revised February 26, 2016)

All project emissions increases are less than the significant emission rates established by the PSD rule.

	PM(f)	PM ₁₀	PM _{2.5}	VOC
BAE	109.10	20.16	4.33	159.54
PTE	126.05	25.24	5.37	121.89
PEI	16.95	5.08	1.04	-37.65
SER	25	15	10	40

- BAE is Baseline Actual Emissions, PTE is Projected PTE Emissions, PEI is Project Emissions Increase, SER is NSR Significant Emission Rates
- Emissions shown in tons/years

Because the applicant set Projected Actual Emissions as equal to PTE such that "...emissions increases based on worst-case potential operation of the new equipment... demonstrate that the project did not cause a significant increase in emissions of any PSD regulated pollutant" no 15A NCAC 02D .0530(u) tracking condition will be required for this modification.

Halifax County has been triggered for PSD increment tracking for PM₁₀, SO₂ and NO_x. For PSD increment tracking purposes, this modification consumed increment as follows: PM₁₀ by 1.16 lb/hr.

VII. Emission Calculations

Boiler Fuel Silo (as submitted in application revision)

OPERATION DATA

Existing	Tons of Material Conveyed	0	ton/yr
Potential	Tons of Material Conveyed ¹	357,475	ton/yr

1. Assumes that all bark and trucked in sawdust go through the boiler fuel silo.

EMISSION CALCULATIONS

Criteria Pollutant Emission Calculations

Pollutant	Emission Factor	UOM	Source	Baseline Emissions tpy	Potential Emissions tpy
Material Addition					
PM	7.10E-04	lb/ton	2	0.00E+00	1.27E-01
PM ₁₀	2.54E-04	lb/ton	2	0.00E+00	4.53E-02
PM _{2.5}	7.03E-05	lb/ton	2	0.00E+00	1.26E-02

1 NCASI Special Report No. 15-01, Section 2.1, Equation 1.

Emission factor calculated from

where:

$$E (\text{lb/ton}) = 0.0018 \times \frac{\left(\frac{U}{5}\right) \left(\frac{s}{5}\right) \left(\frac{h}{3}\right)}{\left(\frac{M}{2}\right)^2}$$

U: Mean wind speed ²	6.3 mph
s: Silt content	1.48 %
h: height of drop	18 m
M: Moisture content ³	4.8 %
PM ₁₀ Fraction, kPM ₁₀ ⁴	0.357
PM _{2.5} Fraction, kPM _{2.5} ⁴	0.099

2. The mean wind speed represents the annual mean wind speed measured in Rocky Mount for the period 2008-2012.

Data taken from the meteorological data suggested for use with modeling for the Roanoke Rapids area.

3. Assumes the ground bark would have a lower moisture content; conservatively selected maximum moisture content from the AP-42 13.2.4 drop equation - ranges of source conditions table.

4. Applied average PM10 and PM2.5 fractions from Characterization of Particle Size Distributions of Powdery Building Material in Aerosol Generated by Fluidization and Gravitation, Tadas Prasauskas, Aida Žemaitytė, Edvinas Krugly, Darius Čiužas and Dainius Martuzevičius Department of Environmental Engineering, Kaunas University of Technology, Lithuania (September 2012). Table 2 for wood grinding dust.

The NCASI PM estimation for material dropped onto a pile in open air was used, although the conveyor will drop material inside the enclosed silo

Transfer Cyclones (as submitted in application addendum)

OPERATION DATA

	New Bark/Fines Cyclones		New Sawdust Cyclone	
Potential Hours of Operation	8760	hr/yr	8760	hr/yr
Number of Cyclones	3		1	

Criteria Pollutant Emission Calculations

Source	Compound	Emission Factor	UOM	Source	Baseline Emissions tpy	Potential Emissions tpy
3 New Bark/Fines Cyclones	PM	9.60E-02	lb/hr	1	0.00E+00	1.26E+00
	PM ₁₀	3.43E-02	lb/hr	3	0.00E+00	4.50E-01
	PM _{2.5}	9.50E-03	lb/hr	3	0.00E+00	1.25E-01
1 New Sawdust Cyclone	PM	1.13E-01	lb/hr	2	0.00E+00	4.95E-01
	PM ₁₀	4.33E-02	lb/hr	3	0.00E+00	1.90E-01
	PM _{2.5}	9.94E-03	lb/hr	3	0.00E+00	4.36E-02

1 NCASI Technical Bulletin 1020 Table 9.1 - Woodroom Fines Cyclone mean value. (December 2013)

2 NCASI Technical Bulletin 1020 Table 9.1 - Woodroom Dust Cyclone mean value. (December 2013)

3 Applied average PM10 and PM2.5 fractions from Characterization of Particle Size Distributions of Powdery Building Material in Aerosol Generated by Fluidization and Gravitation, Tadas Prasauskas, Aida Žemaitytė, Edvinas Krugly, Darius Čiužas and Dainius Martuzevičius Department of Environmental Engineering, Kaunas University of Technology, Lithuania (September 2012). Table 2 for wood grinding dust and wood sawdust.

	Wood Grinding Dust	Wood Sawdust
PM ₁₀ Fraction, kPM ₁₀	0.357	0.383
PM _{2.5} Fraction, kPM _{2.5}	0.099	0.088

Other select woodyard operations (tons/yr)

	PM	PM10	PM2.5	VOC	Emission Factor Source
Paved Existing	78.59	15.72	3.86	--	AP-42 Section 13.2.1, equation 2
Paved New	102.40	20.48	5.03	--	
Unpaved Existing	9.95	2.97	0.30	--	AP-42 Section 13.2.1, equations 1a and 2
Unpaved New	4.31	1.29	0.13	--	
Bark hog existing	1.20	0.55	--	--	EPA FIRE (log debarking)
Bark hog new	2.90	1.33	--	--	
Chip screening, baseline	6.30	0.062	0.017	--	NCASI TB 1020 Table 9.1
Chip screening, PTE	9.93	0.098	0.18	--	
Debarker, baseline	1.49	0.68	--	--	EPA FIRE (log debarking)
Debarker, PTE	2.90	1.33	--	--	
Old chip storage pile	<<0.01	<<0.01	<<0.01	160	VOC: NCASI TB 1020
New chip storage pile	<<0.01	<<0.01	<<0.01	122	VOC: NCASI TB 1020

VIII. NSPS, NESHAP, CAM, N. C. Toxics

The sources in this modification are not subject to NSPS, NESHAP or CAM.

This project is not considered a modification under the toxics program as KapStone has determined "There are no TAPs emitted from the woodyard."

IX. Recent Permit History

August 27, 2015 - Permit No. 01649T55 issued pursuant to Application Nos. 4200007.14B, 4200007.14C and 4200007.15A. The purpose of this application was to: revise the minimum flow rate of the two scrubbers installed on No. 1 Power Boiler (.14B), update the PSD Avoidance Condition pH-SO₂ removal efficiencies emission factors (.14C), and remove the CAIR NO_x limit from the air permit is based on the reversal of the vacature of the Cross-State Air Pollution Rule (CSAPR) rule (.15A).

September 4, 2013 - Permit No. 01649T54 issued pursuant to Application No. 4200007.13B. This permitting event was a 02Q .0501(d)(1) modification to the existing Title V permit, and thus satisfying the requirements both in 15A NCAC 02D .0530 "Prevention of Significant Deterioration" and 15A NCAC 02Q .0500 "Title V Procedures".

January 10, 2013 - Permit No. 01649T53 issued pursuant to Application No. 4200007.11A. This application was for the renewal of KapStone's Title V air quality permit.

June 14, 2012 - Permit No. 01649T52 issued pursuant to Application No. 4200007.12A. The purpose of this application was to install a temporary enclosed flare.

April 30, 2012 - Permit No. 01649T51 issued pursuant to Application No. 4200007.12B. The purpose of this application was a minor modification to increase pulp and paper production capacity through mechanical changes to several existing processes.

March 30, 2012 - Permit No. 01649T50 issued pursuant to Application No. 4200007.11B. The purpose of this application was a significant modification to add one natural gas/distillate fuel-fired boiler with a maximum heat input of 245 million Btu per hour to produce steam for energy generation and provide heat for the pulp and paper processes.

December 21, 2011 - Permit No. 01649T49 issued pursuant to Application No. 4200007.11C. The purpose of this application was a minor modification to add a diesel-fired portable bark grinder with a 1,200 hp maximum rating which will be used to process bark into fuel.

February 21, 2011 - Permit No. 01649T48 issued pursuant to Application No. 4200007.09D. The purpose of this application was a Part 2 MACT “Hammer” application for seven existing boilers.

August 10, 2010 - Permit No. 01649T47 issued pursuant to Application No. 4200007.10B. The purpose of this application was a minor modification to add natural gas to the list of fuels that can be fired in the lime kiln.

June 23, 2010 - Permit No. 01649T46 issued pursuant to Application No. 4200007.10A. The purpose of this application was a minor modification to revise Specific Condition 2.1 M.3 to use specific NOx emission factors for each engine(s) if available, AP-42 otherwise, used by the Porta Chipper (ES-01-PU-014).

November 13, 2009 - Permit No. 01649T45 issued pursuant to Application No. 4200007.09E. The purpose of this application was to administratively correct the annualized BLS firing rate from 547,000 tons per year to 584,000 tons per year.

June 16, 2009 - Permit No. 01649T44 issued pursuant to Application No. 4200007.09C. The purpose of this application was to add the ability to utilize petroleum coke (petcoke) as a fuel for the lime kiln.

February 13, 2009 - Permit No. 01649T43 issued pursuant to Application No. 4200007.09B. The purpose of this application was a minor modification to add the capability to burn ultra-low sulfur (ULS) No. 2 fuel oil with black liquor solids (BLS) as a fuel for the No. 7 recovery furnace.

October 18, 2008 - Permit No. 01649T42 issued pursuant to Application No. 4200007.08A. The purpose of this application was a minor modification for the addition of a portable log chipper.

September 12, 2007 - Permit No. 01649T41 issued pursuant to Application No. 4200007.07B. This application was for an Administrative Amendment to remove the Boiler MACT standard from the Air Permit at the request of the facility. On June 8, 2007, the United States Court of Appeals for the District of Columbia Circuit issued a decision vacating in its entirety and remanding the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters, or Boiler MACT, contained in 40 CFR 63 Subpart DDDDD.

July 23, 2007 - Permit No. 01649T40 issued pursuant to Application No. 4200007.07A. The purpose of this application was to incorporate enforceable conditions pertaining to the emissions and health-related impact of manganese from two distillate and residual-fired boilers and a coal, woodwaste, residual oil-fired boiler.

March 30, 2007 (with an effective date of April 16, 2007) - Permit No. 01649T39 issued pursuant to Application No. 4200007.05C. Although the initial Title V permit (Permit No. 01649T34) was previously issued, it was adjudicated by KapStone. The purpose of this application is to update the initial Title V Permit and add any additional language necessary for emission standards whose compliance dates are subsequent to the initial Title V permit.

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: March 21, 2018

Region: Raleigh Regional Office
County: Halifax
NC Facility ID: 4200007
Inspector's Name: Will Wike
Date of Last Inspection: 09/13/2017
Compliance Code: 3 / Compliance - inspection

<p align="center">Facility Data</p> <p>Applicant (Facility's Name): KapStone Kraft Paper Corporation</p> <p>Facility Address: KapStone Kraft Paper Corporation 100 Gaston Road Roanoke Rapids, NC 27870</p> <p>SIC: 2621 / Paper Mills Exc Building Paper NAICS: 322121 / Paper (except Newsprint) Mills</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>				<p align="center">Permit Applicability (this application only)</p> <p>SIP: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other: Add 2D .0530(u) condition</p>																																																			
<p align="center">Contact Data</p> <table border="1"> <tr> <td> <p align="center">Facility Contact</p> <p>Mike Knudson Environmental Manager (252) 533-6280 PO Box 458 Roanoke Rapids, NC 27870</p> </td> <td> <p align="center">Authorized Contact</p> <p>Benjamin White Vice President of Mill Operations (252) 533-6335 PO Box 458 Roanoke Rapids, NC 27870</p> </td> <td> <p align="center">Technical Contact</p> <p>Mike Knudson Environmental Manager (252) 533-6280 PO Box 458 Roanoke Rapids, NC 27870</p> </td> </tr> </table>				<p align="center">Facility Contact</p> <p>Mike Knudson Environmental Manager (252) 533-6280 PO Box 458 Roanoke Rapids, NC 27870</p>	<p align="center">Authorized Contact</p> <p>Benjamin White Vice President of Mill Operations (252) 533-6335 PO Box 458 Roanoke Rapids, NC 27870</p>	<p align="center">Technical Contact</p> <p>Mike Knudson Environmental Manager (252) 533-6280 PO Box 458 Roanoke Rapids, NC 27870</p>	<p align="center">Application Data</p> <p>Application Number: 4200007.18A Date Received: 01/22/2018 Application Type: Modification Application Schedule: TV-Sign-501(c)(2) Part I Existing Permit Data Existing Permit Number: 01649/T63 Existing Permit Issue Date: 11/17/2017 Existing Permit Expiration Date: 12/31/2017</p>																																																
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<p>Review Engineer: Brian Bland</p> <p>Review Engineer's Signature: <i>Original Signed</i> Date: March 21, 2018</p>				<p align="center">Comments / Recommendations:</p> <p>Issue 01649/T64 Permit Issue Date: March 21, 2018 Permit Expiration Date: February 28, 2023</p>																																																			

1. Facility Description and Purpose of Application

Located in Roanoke Rapids, Halifax County, KapStone Kraft Paper (KapStone) is a pulp and paper mill that manufactures brown paper stock. Brown paper stock is used to make cardboard and shopping bags.

Application No. 4200007.18A, considered administratively complete on January 23, 2018, for the purpose of making improvements to the electrostatic precipitator (ESP) associated with the No. 7 Recovery Furnace. The improvements would allow for an increase in black liquor solids (BLS) throughput at the No. 7 Recovery Furnace from 3.45 million lbs BLS/day to 3.65 million lbs BLS/day on a consistent basis. The proposed modification constitutes a significant modification of the Title V Air Quality Permit. KapStone has chosen to use the two-step significant modification procedures pursuant to 15A NCAC 2Q .0501(c). This first step modification is being processed in accordance with state permitting procedures. Within 12 months of start-up of any of the modified equipment, KapStone will be required to submit a Title V application.

2. Changes to Permit

The following table describes the modifications to the current permit

Page(s)	Section	Description of Change(s)
All	All	Update dates and permit revision number
3 – end	All	Update permit revision number in header
19	2.1 F (table)	Add 15A NCAC 02D .0530(u) recordkeeping/reporting condition for the No. 7 Recovery Furnace ESP project as fully described in Application No. 4200007.18A
25	2.1 F. 6	Add 15A NCAC 02D .0530(u) recordkeeping/reporting condition for the No. 7 Recovery Furnace ESP project as fully described in Application No. 4200007.18A
72	Section 2.2 C.1.p	Add language to clarify that Section 2.2 C.1.p only applies when operating under the alternate operating scenario described in Section 2.2 C.1.c.

3. Application Chronology

January 22, 2018	DAQ receives Permit Application No. 4200007.18A for a two-step significant modification.
January 23, 2018	Permit fee associated with Application No. 4200007.18A received.
February 19, 2018	Facility submits request that Section 2.2 C.1.p.iv "...be removed from the permit during the review process currently underway." With the explanation that "This is a requirement only for those facilities using the "bubble" option. Since we are complying with the individual specific particulate limitations in the rule, this no longer applies to us."
February 26, 2018	Facility submits Applicability Determination Request No. 3220 regarding a piping change involving No. 7 Recovery Furnace precipitator ash.
March 2, 2018	DAQ sends Applicability Determination Request No. 3220 response that no additional permit application is required.
March 2, 2018	A consensus is reached that, based on the guidance in EPA's December 2001 guidance in <i>Pulp and</i>

Paper Combustion Sources NESHAP - A Plain English Description, Section 2.2 C.1.p.i-iv will be updated to clarify that these items only apply when the facility is operating under the “bubble” alternative operating scenario.

4. Regulatory Review

The application describes the proposed project as follows: “The No. 7 Recovery Furnace is currently processing about 3.45 million pounds of BLS per day. The furnace could handle additional throughput (up to 3.65 million pounds of BLS per day) but the opacity of emissions increases above normal levels at higher throughputs. In order to remain in compliance with PM emission limits and opacity operating limits at maximum throughput, the mill proposes to improve the ESP performance by replacing the single-phase transformer/rectifier sets on the first two fields with three phase switch mode power supplies. This change will allow better control of how power is applied to the ESP; it does not involve a change to the plate area. No modifications are necessary to the No. 7 Recovery Furnace itself in order to increase the BLS throughput on a consistent basis. The increase in throughput will increase the actual emissions from the No. 7 Recovery Furnace and other affected units, but emissions will remain below the PSD significant emission rates and the BACT emission limits.”

Outside of the new 15A NCAC 02D .0530(u) condition, there are no changes to the regulatory requirements as a result of this change, so a regulatory review of existing requirements will not be included in this document.

To calculate emissions increases from the project, a baseline actual to projected actual analysis was performed. After a review of monthly production data, a baseline of 2015-2016 was selected for all compounds.

Section 4.1.1 of the Regulatory Analysis of the permit application describes the process of determining projected actual emissions (PAE) for this project “Projected actual emissions are defined by 51.166(b)(40)(i) as “the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the 5 years (12-month period) following the date the unit resumes regular operation after the project, or in any one of the 10 years following that date, if the project involves increasing the emissions unit's design capacity or its potential to emit that regulated NSR pollutant, and full utilization of the unit would result in a significant emissions increase, or a significant net emissions increase at the major stationary source. ” To determine the maximum annual rate, a source must consider all relevant information, including historical operational data, the company's expected business activity and the company's highest projections of business activity for the five year period after implementation of the project. In addition, projected actual emissions shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit's emissions following the project that an existing unit could have accommodated (CHA) during the consecutive 24-month period used to establish the baseline actual emissions, and that are also unrelated to the particular project, including any increased utilization due to product demand growth. The maximum permitted annual emissions from the No. 7 Recovery Furnace do not change with this project; emissions will remain below annual BACT limits. No physical modifications are necessary to the No. 7 Recovery Furnace to achieve a higher throughput on an annual basis; therefore, no BACT analysis is required. Projected actual emissions from all units affected by the proposed project were calculated based on throughput equivalent to 3.65 MMlbs BLS/day and 355 days per year. Emissions each affected unit could have accommodated during the baseline period were determined by annualizing the highest monthly throughput during the 2015-2016 baseline period. The power boiler and package boiler are not affected units for this project because the recovery furnace produces the additional steam required at the higher production rates. The A-line washer was not controlled during the baseline but will be controlled post project.”

PSD Applicability Analysis (Appendix B of Application)

PSD APPLICABILITY ANALYSIS
KAPSTONE KRAFT PAPER CORPORATION - ROANOKE RAPIDS, NC

Pollutants	Baseline Actual Emissions (TPY)	Emissions Accommodated During the Baseline (TPY)	Project Related Emissions Increase (TPY)	Post Project Emissions (TPY)	PSD Significant Emission Rate (TPY)	Project Increase Above PSD SER? (Y/N)
Carbon Monoxide	856.5	973.3	49.2	1,022.5	100	N
Nitrogen Oxides	973.4	1,587.8	34.0	1,621.8	40	N
Sulfur Dioxide	324.1	351.1	2.2	353.4	40	N
PM (T)	173.8	183.8	10.6	194.5	25	N
PM-10 (f+c)	155.7	166.65	9.7	176.3	15	N
PM-2.5 (f+c)	137.8	147.4	9.2	156.6	10	N
VOC	253.7	264.1	26.2	290.3	40	N
Lead	0.03	0.03	0.0	0.03	1	N
Fluorides	0.1	0.1	0.0	0.1	3	N
Sulfuric Acid Mist	21.3	22.1	0.2	22.3	7	N
Hydrogen Sulfide	3.1	3.3	0.4	3.7	10	N
Total Reduced Sulfur	5.5	6.0	1.3	7.3	10	N
CO ₂ e	965,294	1,034,489	54,282.1	1,088,771	75,000	N

All project emissions increases are less than the significant emission rates established by the PSD rule. Pursuant to 15A NCAC 02D .0530(u), because the Permittee relied on projected actual emissions for the purposes of demonstrating that the modifications to the ESP did not result in significant emissions increases, the Permittee is required to maintain records of annual emissions, related to the modifications, in tons per year, for 5 years following resumption of regular operations after the modifications. This rule further requires the Permittee to submit annual reports, due within 60 days after the end of each year during which these records must be generated.

5. NSPS, NESHAP, CAM, Air Toxics

(From the Regulatory Analysis of the permit application)

The NSPS for Kraft pulp mills (40 CFR 60, Subparts BB and BBa) contain emissions standards for particulates and total reduced sulfur (TRS). Affected units that commence construction, reconstruction or modification after May 23, 2013, are subject to the requirements of Subpart BBa. Any affected unit that commenced construction, reconstruction, or modification after September 24, 1976, and on or before May 23, 2013 is subject to the requirements of subpart BB. The PM standards in BB and BBa apply to new and modified lime kilns, smelt tanks, and recovery furnaces. The TRS standards in BB and BBa apply to new and modified digesters, brownstock washer systems, multiple-effect evaporators, condensate strippers, lime kilns, smelt tanks, and recovery furnaces.

The recovery furnace is subject to NSPS Subpart BB. The mill is not making a physical modification to the No. 7 recovery furnace. Emissions will not increase above the existing regulatory limits. In addition, no capital expenditure is being made on the recovery furnace in order to increase throughput; therefore, this project is not an NSPS modification and new requirements under NSPS BBa are not triggered. The PM BACT limit is below the NSPS BB limit and the TRS BACT limit is equal to the NSPS BB limit. In addition, the purpose of the project is to improve ESP performance; therefore, compliance with this standard will not be affected with this project.

The recovery furnace is also subject to the NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite and Stand Alone Semichemical Pulp Mills (40 CFR 63, Subpart MM, or MACT II). The mill no longer complies with the "bubble limits" under this rule, but complies with the single source PM limits. The mill recently performed PM compliance testing and results indicated a large margin of compliance with the Subpart MM limit. Because the purpose of this project is to improve the performance of the ESP, compliance with Subpart MM will be maintained.

The CAM Rule does not apply to PSEU that are subject to emission standards proposed pursuant to section 111 or 112 after November 15, 1990 (e. g., MACT II). The No. 7 Recovery Furnace uses an ESP to comply with applicable PM limits. However, CAM does not apply to the No. 7 Recovery Furnace because this source is subject to 40 CFR 63, Subpart MM (MACT II) and uses the MACT monitoring to demonstrate compliance with applicable PM limits.

The recovery furnace has been included in past facility-wide toxics modeling analyses and maximum allowable recovery furnace emissions do not increase with this project (all air toxics emission rates were optimized above maximum throughputs for past analyses). As such, no updated air toxics modeling demonstration was submitted.

6. Increment Tracking

Halifax County has been triggered for increment tracking under PSD for PM₁₀, NO_x and SO₂. For PSD increment tracking purposes: PM₁₀ emissions from this modification are increased by 2.3 pounds per hour, NO_x emissions from this modification are increased by 8.0 pounds per hour and SO₂ emissions from this modification are increased by 0.5 pounds per hour.

7. Facility Compliance Status

The last full inspection of this facility was completed on September 13, 2017 by Will Wike of the RRO. At that time, “Based on observations made during the inspection, KapStone Kraft Paper appeared to be operating in compliance with all permit requirements.”

8. Other Regulatory Concerns

A P.E. seal was not required for this modification.

A zoning consistency form was not required for this modification.

An application fee of \$947 was required and received for this modification.

No public notice or EPA review period is required for this first step of a two-step significant modification.

9. Draft Permit Review Summary

Charles McEachern of the RRO was provided a draft permit and draft permit review document on March 13, 2018. RRO recommends issuance of the revised air permit.

Mike Knudson of KapStone was provided a draft permit for review on March 13, 2018. Mr. Knudson replied that the draft looks good.

Recommend issuance of Air Permit No. 01649T64.